REMARKS

Favorable reconsideration and allowance of the claims of the present application, as amended, is respectfully requested.

Claims 1-4, 7 and 8 are pending in this case.

In the present Office Action, the Examiner rejected Claims 1-3, 7 and 8 under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent Publication No. 2001/0040490 to Tanaka ("Tanaka"). Claims 1 and 4 were additionally rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 6,033,982 to Lopatin et al. ("Lopatin").

With respect to the rejection of independent Claim 1 as being anticipated by Tanaka, applicants respectfully disagree in view of the amendments made to Claim 1. Particularly, Claim 1 has been amended to more accurately set forth the vertically stacked coplanar transmission line structure according to a first embodiment that comprises a micro-strip pair of first and second vertically stacked coplanar conductors, each first and second vertical stack comprising a metal layer, a next metal layer down, and an intermediate connecting via layer in between the metal layer and the next metal layer down, said intermediate connecting via layer comprising a via bar having a width dimension approximately equal to a width dimension of said first and second vertically stacked coplanar conductors and having a length dimension approximately equal to a length dimension of said first and second vertically stacked coplanar conductors. Respectfully, the amendment to Claim 1 does not constitute new matter as the interconnecting metal via bar structure is clearly shown in Figure 1 with its dimensions clearly set forth in the specification, e.g., paragraph [0007] at page 4, lines 2-4.

Furthermore, the present specification clearly describes how the via bar structure functions to provide a greater capacitance per unit length thereby lowering the characteristic

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impedance of the transmission line (lower the resistivity of the structure) as compared to the prior art coplanar micro-strip line with same dimensions (see specification paragraph [0026]).

Clearly such a stacked structure is neither shown nor described in Tanaka. Tanaka's transmission line structure includes vertically disposed metal conductors with interconnecting via "posts" spaced apart a specified distance. Thus, structurally, the vertically stacked coplanar transmission line structure according to a first embodiment of the present invention as now set forth in amended Claim 1 is different than Tanaka as Tanaka does not teach or suggest the interconnecting via bar having a width dimension approximately equal to a width dimension of said first and second vertically stacked coplanar conductors and having a length dimension approximately equal to a length dimension of said first and second vertically stacked coplanar conductors and is not anticipated thereby. Furthermore, it is respectfully submitted that the via structures as taught in Tanaka would not significantly lower the impedance. That is, Tanaka's transmission line would exhibit more resistivity as its via structure does not run continuously along the entire length of the conductor lines.

In view of the foregoing, the Examiner is respectfully requested to withdraw the rejection of Claims 1-3, 7, 8 as being anticipated by Tanaka.

Respectfully, the applied Lopatin reference is of no help in this regard. Lopatin's conductive structure is not a transmission line, but rather likened to a coaxial conductor having a first outer conductor (element 56, Fig. 3) a dielectric (element 55) and a second inner conductor (element 42). The second inner conductor is formed by an electrolytic process (anodization) and thus requires a "seed" metal layer 60. This seed metal layer 60 is, in turn, formed on a metal adhesion layer 44, which connects the conductor to the substrate. The Examiner has rejected the Claims 1 and 3 based on the structure of Lopatin (Figure 3) comprising layer 44, layer 60 and layer 42 however, respectfully, applicants traverse. The structure comprising layer 44, layer 60

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and layer 42 is not a transmission line structure, and moreover, the seed layer 60 is not a via interconnecting two conductors. This is because metal adhesion layer 44 is not a current carrying layer (the inner conductor layer 42 is the current carrying layer). Moreover, as described in Lopatin at col. 5, lines 35-37 portions of the metal adhesion layer 44 is "transformed into an insulating metal oxide" via the anodization process, thus, teaching away from being a conductor. Furthermore, the structure 40 of Lopatin is concerned with mitigating capacitive crosstalk between adjacent conductive lines, which is counter to the structure of the present invention which desires to increase capacitance/length in each stack of the vertically stacked coplanar transmission line structure in order to reduce the characteristic impedance of the transmission line. Moreover, the process for forming the structure of Lopatin is an electrolytic process whereby a conductor undergoes anodization. The transmission line structure of the present invention is formed by dual damascene methods known in the BiCMOS device fabrication arts.

In view of the foregoing, the Examiner is respectfully requested to withdraw the rejection of Claims 1 and 4 as being anticipated by Lopatin.

In view of the foregoing amendments and remarks, this application is now believed to be in condition for allowance, and a Notice of Allowance is respectfully requested. If the Examiner believes a telephone conference might expedite prosecution of this case, it is respectfully requested that he call applicants' attorney at (516) 742-4343.

Respectfully submitted,

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